

to beg the question for the choice of institutions in the world of reality" (p. 235). But when he adds that "many features of the real world which are particularly relevant to the choice of the best institutional mixture have been assumed away throughout this volume", one is inclined to suggest that "many" should be amended to "all". A Pareto-optimum is simply a Pareto-optimum, and can be described in terms of a highly simplified competitive economy of omniscient individuals, or of an economy organized by an omniscient central authority, or of various mixtures of the two. The significant problems of economic policy and of the choice of appropriate institutions are not problems of how to calculate or compute "optima" from complete data, known and predictable with certainty, as represented in textbook and blackboard diagrams. They are problems of how best to provide against ignorance and uncertainty, how to cope with "externalities", which are not exceptions, or *curiosa*, but the very stuff of a modern economy in which motor-cars and more spacious housing are the main *desiderata*. Professor Meade is, of course, perfectly well aware of these points, but hardly seems to give them due weight in his conception of the relationship between his highly abstract analysis and policy conclusions.

It might be dangerous if undergraduate students get the distorted impression of the nature of policy problems that, given the necessary value judgements, wise and realistic decisions are, or can be, reached by calculations or computations from complete data known with certainty; and that they should therefore devote a large part of their time and energy to the cultivation of purely analytical, logical or geometrical analysis. The belief in the supreme importance of precise and subtle, but highly abstract, analysis rather resembles that of the senior Guards officer's belief that the best training for the battlefield was for the soldier to spend much of his time performing meticulously precise drill-movements on the barrack-square; or the belief of the classics masters that devoting much of one's time to Latin and Greek composition was the best training in clear thinking and expression (admittedly not nearly as bad an idea as some of those which have superseded it).

But this line of criticism may not merely seem rather carping, it is also premature. One will not be able adequately to judge the emphasis of Professor Meade's work until further instalments are unfolded. One should certainly look forward to these confident that, as with the present volume, one will be treated to a masterly and instructive example of detached, lucid and precise analysis.

T. W. HUTCHISON

CONTRACEPTION

Mears, Eleanor. *Handbook on Oral Contraception*. London, 1965. Churchill. Pp. xv+107. Price 20s.

DESCRIBING ORAL CONTRACEPTIVES, Dr. Mears writes "it is probably true to say that no other group of drugs in general use has been subjected to so much careful investigation on a world-wide basis". This handbook is a remarkably compact and efficiently constructed summary of all the work which has gone into studying oral contraceptives up to the beginning of 1965. In a mere 100 pages it covers the clinical usage of "the pill" and sets it in its correct biological context, and includes, in addition, chapters on very recent advances, such as sequential therapy.

The book has arisen out of the work of the Oral Advisory Group of the IPPF Medical Committee. To a large extent it gets the best of two different worlds. On the one hand, it benefits from a single authorship which leads to continuity and avoids the excessive length (and price) of volumes that attempt to cover a large field by calling on several authors. On the other hand, it has the advantages of a symposium in that many distinguished authorities on oral contraception have been closely associated and partly responsible for large sections of the book.

In summarizing the scientific aspects of the subject all the most significant work on both man and animals is adequately covered. All the controversial issues that have arisen around oral contraception are faced squarely and honestly: possible effects on the pituitary, on blood clotting mechanisms and on liver function, and any long-term risk of carcinogenesis are closely discussed. Perhaps one of the most useful

aspects of this handbook will be as an answer to those biologists and doctors who are over cautious in the large-scale use of oral contraceptives. At the same time Dr. Mears does not overstate her case and is careful to underline those areas where doubts remain. It is interesting that in certain physiological fields knowledge of the action of "the pill" has outstripped our basic knowledge of the normal.

Under the clinical usage of oral contraceptives the *Handbook* surveys their use, effectiveness, possible side effects and their action on lactation and the menopause. The least satisfactory part of the book is a chapter of practical advice to doctors which is clumsily set out as a series of questions and answers.

Not all reviews of the *Handbook* have been as eulogistic as the above. It has been described as "hastily put together" and over enthusiastic in its advocacy of oral contraception, that so-called "violent incursion into the endocrine physiology of the woman". For my part, I find it a most valuable book on an exceedingly important topic.

MALCOLM POTTS

SCIENCE AND RELIGION

Thorpe, W. H. *Science, Man and Morals*. London, 1965. Methuen. Pp. 155. Price 25s.

THIS BOOK IS the outcome of a course of endowed lectures delivered by Dr. Thorpe at Balliol College in 1963. When it is known that the purpose of the lectures is to discuss the relation of science to Christianity with particular reference to the "sympathetic explanation of differences . . ." the general trend will be apparent. Indeed, it would not be unfair—if perhaps a little unkind—to say that it is an heroic endeavour to get Paley's watch going again after its century-long retirement. But the emphasis is shifted from the design of the actual parts of the watch to the materials from which the parts were fashioned—the shape and purpose of the parts having been inherent in the materials from Creation. Such a bald statement as this, however, does less than justice to the full and learned argument and Dr. Thorpe is clearly as highly qualified in philosophical as he is in scientific matters; moreover he is a noted

authority on animal behaviour and many original and fascinating examples are given, accompanied by enlightened interpretations and inferences.

Eugenics receives measured approval, more particularly "when it comes to be based, as we hope it will, on foundations of knowledge incomparably greater than at present" (p. 123). Several possible future techniques—such as AID with preserved semen, or perfecting a method by which, to implant "nuclei of somatic cells into enucleated eggs, and then force them to develop parthogenetically" (p. 123) are mentioned. But some will demur at the author's disagreement with the example quoted (p. 123) of the laboratory rat becoming decadent in the absence of natural selection; Dr. Thorpe argues that such absence does not produce decadence because the rat becomes admirably adapted to the protected environment of the laboratory. But surely this is to confuse the "decadence" within an environment where natural selection is operating and "decadence" outside such a society. Carried to the human parallel we have the words of the late Sir Charles Darwin, while President of The Eugenics Society: "The most efficient way for a man to survive in Britain is to be almost half-witted, completely irresponsible and spending a lot of time in prison, where his health is far better looked after than outside; on coming out with restored health he is ready to beget many further children quite promiscuously, and these 'problem children' are then beautifully cared for . . . until such time as they have grown old enough to carry on the good work",* which well describes an admirable adaptation to Welfare State conditions yet still deserves the appellation "decadent".

Differing interpretations by individual physicists of the *physical* (author's italics) universe receives attention and mention is made of the fact that as more and more physical considerations are taken into account, fewer features of the universe remain accidental (p. 134). But such thoughts could only be written in the absence of a valid definition of an accident itself. To a Determinist the mention of the word "accident" can only bring a wan smile.

* *The Next Million Years*, p. 94.